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HYPODERMIC MEDICATION.

By T. CURTIS SMITH, M. D.,
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Hypodermic medication was first discovered and practiced by Alexander Wood of Edinburgh in 1843. He was led to this discovery by the use of an instrument invented by Fergusson to inject *nævi*, and by the firm belief in Valleix' theory of the seats of neuralgia. Wood adopting this theory believed neuralgia to be a local affection, and should be treated locally. He first brought this into use in a case of cervico-brachial neuralgia, in which one injection effected an immediate and permanent cure. After this the use of remedies by this method became frequent in Edinburgh. His first article on this subject appeared in 1855. His priority was disputed by Rynd, of Dublin, and Kurzak, of Vienna, but all now concede Wood's priority of discovery and use.

The latter, though recognizing the systemic effects of remedies inserted beneath the skin, believed its localization necessary to effect relief from pain. This remained undisputed until 1859, when Dr. Charles Hunter, of London, published an article denying that localization was necessary, but that a pain would be just as quickly relieved if the remedy was injected at a point distant from the pain, as if at the painful section.

In the main this latter is true, for pain by this method is relieved by the remedy being carried into the circulation, and thus influencing the nerve centres, the same as when given by the stomach, except far more rapidly. Where a remedy capable of influencing the nerve centres is carried into the blood, it matters little at what point it enters the circulation, the effects will nearly always

be the same. In hypodermic medication there are a few exceptions to this rule.

But, while Hunter was correct with regard to the systemic effects, Wood was not totally wrong in reference to the local effects. For the relief of diseases of a painful or spasmodic character, as we usually find them in practice, it matters little where an injection is used, provided we are careful to avoid sections naturally excluded from its use. But in cases where the pain has been *long seated in one place*, with no tendency to change locations under treatment ordinarily applied, localization is, in my experience, far more effectual than administration at a distant point.

One case of frontal headache that had been persistent for two years, was entirely relieved by one hypodermic injection locally applied. Another of a similar character was as effectually relieved by two injections. In neither case has the pain returned, though two years has elapsed in one, and eighteen months in the other.

Without entering into any further detailed account of the history of this method, I propose simply to give the method of using, the dangers and advantages of the method, and disadvantages, with a few hints at the physiology and therapy of remedies administered, with formulæ for a few leading remedies, method of preparing the same, and then occasionally a very few illustrative cases.

Method of Using.—Having a proper solution, the syringe is charged with the proper dose, the skin is pinched up between the thumb and finger, the point of the needle is placed against the integument at the point where the needle is to enter. It is then thrust through the skin by a quick motion, after which it is carried one inch under the skin, but quite parallel to the surface. We

are now directed by authors on this subject, to discharge the fluid drop by drop until the requisite amount is injected. But as the only great danger from hypodermic injections is that of either using too large a dose or of *entering a vein*, I think these directions can be much improved upon. I present my own plan of using, and let the reader judge for himself whether or not it is an improvement on the plan usually adopted.

The needle is carried one inch under the integument into the cellular tissue, but instead of injecting the fluid at that point, the needle *should be withdrawn a quarter or half-inch; then, holding the barrel of the syringe parallel with the surface, raise the skin three to five lines above the surrounding surface.* If the integument is very loose, it can be raised higher than that without endangering the integrity of the needle. After it is thus managed, the fluid can be injected very slowly. If a vein has been entered, the partial *withdrawal will, most likely, dislodge it from its channel;* but if it do not, the little force used to raise the integument *will rupture the very thin walls of so small a vein as is found so near the integument;* and, whether punctured or ruptured, it will be pouring out its own blood while the solution is being absorbed, thus preventing the medicine from being carried directly to the heart. It is my opinion that by carefully following these directions, the injection of a vein will nearly always be avoided. I doubt whether one could be injected by following this plan.

The syringe should contain no air. If air is drawn into the syringe with the solution, it can readily be inverted and pressed out by pushing in the piston. A minim or two more should be carried into the barrel, as one minim will be left in the barrel and needle. Besides, if a little air be left in the barrel, an overplus of one or two minims gives opportunity to avoid pressing the piston entirely home, thus avoiding throwing the air into the cellular tissue.

Of the syringe, the best should be obtained, for a poor instrument, even in proper hands, will often cause bungling and general dissatisfaction. The glass barrel and the silver are, if properly made, among the best. The former is graduated on the barrel. All that are made of opaque material are graduated on the piston. A very convenient syringe is the glass graduated barrel with a silver case, in which a slide is arranged to be

slipped out while being used. This prevents all breakage. The needles should be of material that does not readily rust, and should be kept perfectly clean. Steel needles should be avoided unless washed with silver or gold, as they require great attention to keep them in order.

The dangers of hypodermic medication are not numerous, but need to be avoided to prevent serious accident. Over-dosing, having the solutions too acrid, alkaline or acid, or injecting a vein, may produce some serious results, such as abscess, pustule, great prostration or even death.

Prof. Nussbaum, of Munich, after injecting himself over two thousand times, finally inject two-and-a-half grains of acet. morph. into a subcutaneous vein. The result was very great and prolonged prostration, from which he finally recovered. Dr. Hanfield Jones, of London, reports three cases of "serious fainting" in cases where he had reason to believe the patients labored under degeneration of cardiac tissue.

Drs. Southey and Duckworth, of the Clinical Society of London, each relate a fatal case. These are all the fatal cases I know of, unless we include that of Dr. Batholow's last year, which, it seems to me, could not have been caused by the hypodermic dosing.

For myself, I have never seen anything more unfavorable than we see from the some remedies, except in one instance, a small abscess. There are, in my opinion, many instances of a near approach to death, and in some cases nearly a fatal termination, produced by the use of remedies given by the stomach even when reasonable care is used. Almost every practitioner can call to mind cases where he has left opium or its alkaloids to be used *while the pain lasts only*, but the attendants have continued to give it after relief has been afforded, or perchance large quantities are used before the pain ceases. At the next visit he finds his patient narcotized and too often nearly beyond relief, or entirely so, especially if it be a child. From such cases we never see anything in print. From this fact I am led to conclude that remedies of the narcotic class claim more fatal cases by the old, than by hypodermic use. In the former, the effect is slow, and too much is liable to be crowded down the gullet before enough is absorbed to give relief; in the latter, the full effects are attained in from five to twenty minutes. If no serious results occur in the first thirty

minutes we need seldom expect any afterwards.

The disadvantages are the difficulty of giving it to children (besides it is not well adapted to use among very young subjects), and very timid persons. An occasional small abscess or pustule, slight fainting, which occurs now and then in any operation, however small.

The advantages of this over the old stomache method, in many instances, are so apparent that one only has to witness them, to be convinced, unless he be steeled in unreasonable prejudice against the method. It is now used by nearly every leading practitioner who is acquainted with the mode of using, and the remarkable benefits to be obtained from it. I cannot conceive how any one can give it a fair and general trial, and yet fail to speak well of it. Gallagher (*N. Y. Med. Journal*, May 1871) of Pittsburgh, says: "The hypodermic method of medication is now so well established that no practitioner of any standing will denounce it, or refuse to avail himself of its advantages. Its triumphs are becoming numerous and far spread, and all parts of the civilized world are reaping benefits from its use."

1. The smallest advantage is economy of medicine, which is no great object except in very high price or scarcity of an article.

2. *Rapidity of effects.*—The system can be generally brought entirely under the influence of a narcotic in five minutes, and its full effects attain in twenty minutes except its hypnotic properties, which are sometimes deferred. By quinia, complete cinchonism can be produced in forty to fifty minutes, certainly a very short time compared with the usual method adopted. A severe neuralgia, colic or spasm is completely relieved in ten minutes, while one or two hours are otherwise required to effect the same result.

If cinchonism can be so quickly produced, it naturally follows that in attacks of congestive chills, (so called), it will be found far superior to administration by the stomach, even if that organ is in condition to retain and absorb the remedy, which unfortunately, is generally not the case. To be able to crush the disease at once, would be a happy consummation. In this remedy we have the means by which to reach that happy end.

3. *Saving of time, labor and anxiety to the practitioner.*—This is no small object. When

hurried from one place to another, and much professional labor to perform, or when his studies are his greatest pleasure, the difference between relieving his patient in ten minutes, (when in pain, spasm or chill,) and waiting one to three hours for relief by the slow absorptive process of a deranged stomach, is so apparent to any one who has witnessed it, that he cannot fail to pronounce in favor of the method, and has *only to witness it* to praise its triumphs. Especially will this be so, if it save the practitioner some hours of sleep when already overtaxed by night labor.

4. *Intensity of effect.*—In this method the medicine is all taken up by the capillaries and absorbents in a remarkably short space of time, five to twenty minutes; hence the intensity of effects is greater than where three or four times that number of minutes is required to absorb it by the gastric organ.

5. *Certainty of action.*—To possess a weapon that very seldom fails, with which to meet a disease affords us no small degree of satisfaction. Thus administered it is next to impossible for a remedy to fail to act; for it is placed in immediate contact with the capillaries and absorbents, and must almost of necessity be carried through the circulating fluid, thus influencing the nervous system.

I know of but one exception to this rule, and that has occurred to me but once, in a lady of a nervo-sanguineous temperament. The integument was very thin and delicate, and fitting the surface so very tight that it was difficult to pinch up enough of it to puncture properly with the point of the needle. After the injection was administered, it was not absorbed for near an hour sufficiently to relieve the pain. In such persons the absorbent system is not as active as in the generality of cases. I have not observed this exception being noticed by any writer on this subject. In other similar temperaments I have observed an approach to the same result.

(To be continued.)

DOUBLE PLACENTA, WITH ONE FŒTUS.

BY T. CURTIS SMITH, M. D.,
Of Middleport, O.

Early in March, (this year) a lady called at my office late in the evening to obtain a prescription for her friend, Mrs. — whom she said was "flowing very freely, and that

she was becoming very weak, and was in considerable pain." I suggested that there might be a miscarriage occurring, but the lady said she thought that could not be, for she had no reason to believe the lady was pregnant, besides she was nursing a child then sixteen months old.

I prescribed, but gave a special direction for her friend to go to bed and remain until better, or some developments occurred in her case. The next night I was summoned hastily to see the lady. On reaching the house, I learned that she had continued on her feet all the day, but at night became very weak and faint from loss of blood, and that it had not ceased since going to bed, and was accompanied with pain, as though in regular labor.* She persisted that she was not pregnant; said the catamenia had not appeared but once since her previous labor, and that three months ago. Had not been troubled by nausea or any of her usual sensations of pregnancy. A vaginal examination disclosed a large womb, with pregnancy at least six or seven months advanced. The os was dilated to half the size of the palm, the membrane protruding. The movements of the fetus could be plainly felt through the membranes, but the lady herself declared she had never felt any motion whatever. I slipped two fingers beneath the membrane, and pressed the fetus against the parietes of the uterus. She then said she felt it plainly for the first time.

The os being dilatable, the hemorrhage very considerable, I ruptured the membranes and gave *vin. ergot*. In a short time the fetus was expelled. It was about seven months advanced and lived thirty-six hours.

The placenta was removed without trouble, but instead of being single, there was another, and a smaller placenta, attached to its left hand margin, about the size of a five months placenta, and very much decomposed, smelling fearfully. There was no cord attached to this smaller and decomposed placenta, but a point which from its appearance proved to my mind quite conclusively, that there had once been a cord inserted. The maternal surface presented the usual division of cotyledons, while the foetal surface was smooth, and around the outside margin were what seemed to be the remains of the membranes. The hemorrhage, it was evident, had taken place at the line of union of the healthy and morbid placenta.

There was no trace of the other fetus to

be found, and the lady declared she had never noticed any discharge indicating anything of the kind, nor in fact any discharge of color whatever, except for about two days, three months previous to this time, and then only slight.

Was the ovum blighted before ossification began, or had far advanced and was passed unnoticed, or was it absorbed? Or did this fetus live till the time of the discharge, three months ago? Or could conception have occurred at different periods, and the two placentæ become united? I know of but one other case where pregnancy existed so long without being recognized by the lady, and that is reported by Dr. B. F. TASKER, of Kendall's Mills, Maine, in the *Gynecological Journal** of Boston for 1860, page 145.

In my own case, as in Dr. Tasker's, the veracity of the woman has always stood unquestioned.

In the *American Journal of Obstetrics* for May, 1871, page 191, Dr. E. CHENERY, of Boston, Mass., (a quotation from *Medical and Surgical Journal* of that city,) relates a case equally as novel as my own, bearing on the question of conception occurring at different periods, when double. In his case, notwithstanding proper treatment, he says, "the pains had returned, and the hemorrhage was profuse. She had passed nearly a chamber-vesselful of blood and clots, among which I found a fetus, with transparent membranes entire, and altogether about the size of a common open-faced watch. The womb was dilated, and another and much larger fetus was lying with its head entirely escaped from the os, pushing its unbroken vestments before it. Supposing, of course, miscarriage of this must take place, I caught the head between my finger and the wall, to bring it into the world, when it slipped from my hold and escaped back into the womb beyond my reach." The wound contracted, flooding ceased; patient recovered—a very rare occurrence in the face of such symptoms. He further says: "Thus ended this early and bloody battle between this modern Cain and Abel. The older having gained the victory... returned to the undisputed enjoyment of his pre-posessions. Here there were the products of a double conception. One of them

* Would it not be a good idea for this Boston *Gynecological Journal*, and other journals, to be well indexed?

bore the marks of about eight weeks, and the other twenty."* This lady "was confined at term" with this modern Cain.

My own, and this last case, are to my mind only additional evidence that in twin conceptions the fetuses MAY be conceived at different periods, while Dr. Tasker's case and my own go to prove that pregnancy may exist to, or near, full term without the woman being cognizant of it.

DRY GANGRENE OF THE FOOT AND LEG, PRODUCED BY EMBOLISM OF THE POPLITEAL ARTERY.

By J. HALE, M. D.,
Of Owensboro, Ky.

On the 24th of April, 1869, I was called to see Mrs. B., of Hancock county, Kentucky. Mrs. B. is an intelligent lady, about twenty-two years old, the mother of two children,—fair skin, light hair and eyes, nervo-lymphatic temperament,—hereditarily predisposed to phthisis pulmonalis.

Her physicians, Drs. Taylor, Gregory, and Griffin, gave me the following history of the case. Six weeks ago, Mrs. B. was taken with measles, which run the ordinary course and passed off, leaving her with a troublesome cough and free muco-purulent expectoration. These symptoms remained about the same for a week, at which time she was taken with a severe pain in the foot and ankle, extending up the leg to the knee, which continued unremitting day and night, notwithstanding the free use of morphia and various local applications.

The foot became discolored, assuming a livid hue, which gradually extended up the leg, and darkened in color by degrees until it became black. At this time—two weeks after the attack of the measles—she was delivered of a still-born child, at full term. She had an easy labor, and did well so far as her accouchement was concerned. The pain in the foot and leg, however, continued as severe as ever.

I saw the patient two weeks after her accouchement. On examination, I found her laboring under dry gangrene of the foot and leg up to the knee. The foot and leg were perfectly black, and considerably shrunken. The pain in the foot and leg was still as severe as ever. She was very much emaciated, had hectic fever, a troublesome cough, and free from muco-purulent expectoration.

* Italics mine.

Her respiration was hurried; pulse, 125 per minute; appetite depraved; bowels active.

On physical examination, I found the heart-sounds normal. There was slight bronchial respiration at the apex of both lungs, with a soft mucous rale throughout the entire bronchial ramifications, in both lungs.

The resonance on percussion was normal in every region of the chest. I advised amputation, which was readily agreed to by the attending physicians, the patient, and friends. Dr. Taylor anesthetized the patient with chloroform, and I amputated the thigh at its lower third. I performed the usual flap operation, and dressed the stump in the usual way—using silver-wire sutures.

I advised, as after-treatment, a full opiate every eight hours, and cod-liver oil and wine of iron, with good diet, etc., the stump to be kept wet through the dressing, with a solution of carbolic acid, one drachm to the pint of water.

Dr. Griffin took charge of the patient, and attended her until she recovered. He has informed me that the entire wound healed by the first intention, and that the cough, expectoration, hectic fever, etc., gradually subsided under the treatment advised, and that she is now enjoying her ordinary health, and is wearing an artificial leg successfully.

I examined the amputated limb, and found in the popliteal artery an embolus. I divided the artery at the summit of the embolus, and caught hold of it with forceps, and drew it out entire. It was a fibrinous plug, about one inch in length, and large enough to fill the artery. The summit of the embolus was about half an inch above the origin of the anterior tibial artery, and extended, pressed it into the posterior-tibial, and completely closed both of them.

I examined the embolus carefully and found it to be a solid fibrinous plug. I agitated it freely in water, until it became almost transparent; still it maintained its size and shape.

I opened the popliteal and posterior tibial arteries at the site of the embolus, and for some distance above in the popliteal, and below in the tibial, and found the inner coat of both arteries perfectly smooth and healthy. I also opened the large veins of the leg and found them full of black grumous blood, so thick that it would not run out when the veins were laid open.

The subject of embolism has attracted

much attention by modern pathologist. Virchow, Billroth, O. Weber and others have shed much light upon this important subject. By their researches many mysterious facts in pathology have been made plain that hitherto remained in utter darkness even to the master minds in the profession. Many cases of sudden death have been reported by our predecessors in puerperal women, pneumonia, rheumatism, and in many other diseases in their advanced stages, and were attributed to debility, over-exertion, excitement, etc. These cases have been satisfactorily explained by the researches of modern pathologist. Embolism is no doubt the cause of nine-tenths of the sudden deaths occurring under these peculiar circumstances.

Dry gangrene of the extremities has been shown by modern research to be due, in a majority of cases, to embolism. The case of Mrs. B. was evidently due to that cause. Billroth in his admirable work on surgical pathology, reports several cases caused by embolism; and many others have been reported, sufficient at least, to prove that embolism is a very frequent cause of dry gangrene.

The remarkable fact that the collateral circulation does not develop in these cases, as it does in ligation of arteries, seems to be of difficult explanation. Billroth attempts to explain this on the supposition "that in endocarditis the heart's action is weakened, and consequently the pressure of the blood is insufficient to dilate the smaller collateral arteries." This explanation is only satisfactory in cases where the patients had endocarditis. In the case of Mrs. B., there was no evidence of cardiac disease; and many other cases have been reported where the obstruction was due to local disease or injury. Various causes may contribute to this result. An enfeebled heart's action, an impoverished blood, the general condition of the patient, the site of the obstruction, etc., seem all to contribute a share in its production.

The only remedy in dry gangrene is an early amputation. The time at which this should be done is a subject of great importance. Most all surgeons advise waiting until a line of demarcation is formed. This may be done with safety in some cases, but in others it would be hazardous. In the case of Mrs. B., there was no well marked line of demarcation. The line around the limb was exceedingly irregular, and variously

shaded from a jet black to a mere lividity, and was still extending. Delay in this case would have likely been fatal. I would not hesitate for a moment in any case of dry gangrene produced by artificial obstruction, but would amputate at once; especially when the seat of the obstruction could be located.

The site selected for amputation should always be above the line of discoloration and above the seat of obstruction when that can be determined.

HOSPITAL REPORTS.

UNIVERSITY OF PENNSYLVANIA.

Service of J. E. GARRETTSON, M. D.

CLINICAL LECTURER ON SURGICAL DISEASES OF THE MOUTH.

[REPORTED BY DE F. WILLARD, M. D.]

June 3, 1871.

Cleft Palate.—Staphyloraphy.

GENTLEMEN: I bring before you this morning a number of cases which have been accumulating for some time from the simple reason that I have not been anxious to undertake the operations, and also because they are not well suited to show a large class of students. These patients will present to you all the varying conditions and degrees of the deformity known as cleft palate; a congenital deficiency which may consist merely of a slight defect of the uvula itself, or on the other hand be so extensive as to involve the entire hard and soft palates, and possibly be associated with single or double hare-lip.

I say that I approach the operations for the relief of this difficulty with great reluctance, and I will say at the very beginning, that a considerable, and I might say a large percentage will prove failures. This I am sure is the result obtained by all surgeons who have had extensive practice in this department, even where the most favorable operation has been skillfully and properly performed, and all surrounding circumstances have been propitious.

True, there are some foreign surgeons who have reported wonderful results; but I feel justified in saying that I believe the reports to be faulty. Either they have not followed their patients to ascertain the final result, or else they have only selected particularly favorable cases for their operations, leaving the others untouched. In my opinion it is a very unsatisfactory operation, yet in certain cases is well worth a trial.

Cleft palate is nearly always congenital. Perforations from the ravages of syphilis, etc., not being necessarily found in the median line or in a longitudinal direction, are irregular in shape and position, and need never be confounded with the usual form. When the

break is in the hard palate you will usually be consulted soon after the birth of the child, and you should wait but a few weeks before instituting measures for its relief, since the prospects of success speedily diminish with the advancing age of the infant. At birth, as you are aware, the bones of the skeleton are soft and flexible, the organic matter being considerably in advance of the 33 per cent. found in adult bones, though the precise amount is uncertain, owing to the different analyses by Rees, Von Bibra, Stark, etc. However this may be, we know that great defects of the skeleton can be relieved by continuous even though gentle pressure, as evidenced in the correction of a projecting mental protuberance or of a myrtiliform border, by the constant pressure respectively of the cervico-mento-vertical, or the occipito-alveolar elastic sling.

Recognizing this yielding character of the bones, we endeavor at this favorable opportunity to close the cleft. What are the indications? To freshen the edges and bring the raw osseous surfaces in apposition. This can be done either at once by strong compression, or slowly by a gradual process.

Should the former be decided upon, a well padded clamp or compressor is to be selected, (that of Hoey being an excellent instrument), and after paring and freshening the edges of the bones, the pads are slowly forced down by the screw, driving the separated bones into close approximation. This should not be hurriedly or carelessly done, since fractures might result; still such an event could not be prevented, and would not moreover be especially serious, since the treatment would be the same in either case, namely, rest, with the use of compresses and the occipito-labial sling.

Should this method be deemed too severe, that of gradual compression may be substituted. The apparatus will consist simply of two compresses fastened by adhesive plaster in such position as to press upon the alveolar borders from without inward toward the median line, and an india rubber band which shall lightly embrace the child's head at the cervico-labial diameter. This apparatus should be removed twice daily, and the parts freely bathed with alum and whisky to prevent excoriation. This process is slow but it is always certain to be successful, and in a few the bones will be found in close apposition, when the operation can be completed by paring and uniting the cleft in the mucous membrane.

This will be the procedure which we shall try upon this infant,

CASE I. *Double Hare-lip and Cleft Palate*, whom I had before the class some time ago, (vide REPORTER, January 14th, 1871). At that time I showed you the peculiar form of double hare-lip, with which it was afflicted, having a large pendant mass hanging from the septum of its nose, and giving it a very curious and unpleasant appearance. I told you that it was also suffering from a complete break, both in the hard and soft palates, rendering the mouth and nose a

common cavity, with neither anterior or posterior closure, thus preventing the child from sucking, and interfering greatly with deglutition. You will remember that we cut this prominence from its attachment to the septum by the bone forceps, and then pared the edges and brought them together, as in an ordinary case of hare-lip, remarking that the pressure occasioned by this lip might tend to close the palatal gap. Such has been the case to a certain extent, but as the lip is now in good condition, and will bear the pressure, we will hasten the process by the plan above mentioned.

(The apparatus was then adjusted, and the mother told to bring the child for frequent inspection. The soft parts will be united by a subsequent operation.—DE F. W.)

When the cleft has been neglected to adult life, it will usually be found best to adapt an obturator unless the opening be very slight, in which case it may be treated in the same manner as though there were a perforation, and which I shall describe to you at the end of this lecture.

CASE II.—*Wound of Palate.*

Here is a little boy, 9 years of age, who, while playing with a pointed stick a few days since, suddenly fell; the sharp end entering his mouth, perforating the velum, and tearing out, produced a severe punctured and lacerated wound. The edges are ragged and irregular, but by careful paring I think we can readily unite them. This should be done at once, before cicatrization or further absorption has occurred.

[The edges were then trimmed, and brought together by several points of silver-interrupted suture, as hereafter described. The wound was upon the right side of the uvula, and in depth extended almost to the hard palate. DE F. W.]

CASE III.—*Cleft of Uvula.*

Here is a boy, 8 years of age, who has a division of the soft palate extending simply through the uvula itself. This will be a favorable case for operation, I think, since there will be but little strain upon the parts, and the boy is in good health. This latter is a most important element in the consideration of all these cases, and if the patient be in a depressed condition, no attempt should be made until everything denotes that the person be in the best possible physical condition. Neglect of this precaution will almost surely give you a bad result.

Another important preliminary step is the education of the parts to be operated upon. The advantage of this will be readily understood by any one who has used the laryngoscope, or treated diseases of the throat, for they cannot fail to notice the rapidity with which the parts accustom themselves to the touch of instruments, becoming in a few days almost indifferent to their contact. Without this previous education, accomplished by roughly handling and touching the parts, the retching will be so severe as to greatly interfere with, if not absolutely to prevent, an operation.

The operation of staphyloraphy has been practiced since 1764, when performed by Le Monier, the plans of Roux and Warren being the most frequent ones employed.

From a considerable experience in this line of practice, I think, however, that I can accomplish it with much greater ease than by either of their methods. In the first place, I consider that the usual position in front of the patient is a poor one. It interferes with the light, and is more awkward, since the arms are unsupported and outstretched. Place the patient, however, in a chair with a movable head-rest—a dentist's chair is best—take your position behind him upon an elevated stool, and you will immediately see that you are in just the right place. You have perfect control of his head yourself, and can turn it in any direction, to remove blood or mucus, or regulate the entrance of light. Moreover, you are out of the reach of any liquid which may be suddenly ejected, and you run but little risk from the struggles of the patient. There are but few manipulations to be performed in the mouth which will not better be reached in this position than in any other.

In regard to anesthetics, I am sure you will find their use attended with much inconvenience and discomfort both to yourself and patient. If they will only summon the courage to co-operate with you, the task will be much sooner accomplished, and more satisfactorily done. It is an operation, however, which is most frequently performed upon children, and, of course, they will seldom be found willing to undergo the pain, and you are compelled to give the ether. Infants can be held, of course, but it seems cruel thus to take advantage of their weakness.

The instruments which will be required are the same as those for vesico-vaginal fistule; in fact, the various steps of the operation are all somewhat similar in their methods and objects. You will require the long-handled forceps and knife, tenaculum, short curved needles, needle-carrier, shot, shot-compressor, and shot-carrier, silver or lead wire, and mop sticks. Provide also a tumbler of largely dilute tincture of iodine, and also of alum-water, to check the hemorrhage from the cut edges.

All things, then are ready; but as I look again into this boy's mouth, I am reminded at once that I must possess an accurate knowledge of the parts themselves, in order to appreciate the factors which will defeat our success.

To the anatomy of the soft palate I would, then, briefly call your attention. If you look into any mouth you will see the curtain which forms the posterior boundary of the mouth,—the velum pendulum palati,—the anterior half arches with the uvula, while behind are seen the posterior pillars. These are made up of mucous membrane, covering in certain muscles, aponeuroses, vessels, nerves, and mucous glands. The anterior pillar is chiefly composed of the palato-glossus muscle, the posterior of the

palato-pharyngeus, while between them is a triangular space, which encloses the tonsil. The former muscle, otherwise known as the Constrictor Isthmi Faucium, arises from the anterior surface of the soft palate on each side of the uvula, and passing forwards and outwards, is inserted into the sides and dorsum of the tongue, where it blends with the fibres of the stylo-glossus. The palato-pharyngeus arises from the palate by an expanded fasciculus, which is divided into two parts by the levator palati, but uniting again, is also joined by the stylo-pharyngeus, and is inserted with that muscle into the posterior border of the thyroid cartilage, some of its fibres being lost on the side of the pharynx, and others passing across the middle line posteriorly, to decussate with the muscle of the opposite side. These two muscles, you will easily see, will be put upon the stretch when the parts are brought together in the operation, and it will often be necessary to divide them. This is best done by simply nicking them each sufficiently deeply with the scissors in one or two places, the resulting wounds seldom giving any serious inconvenience, but healing rapidly even when left to themselves.

The muscle, however, which is most seriously concerned in this operation for cleft palate is the tensor-palati or circumflexus. This muscle is a broad, thin, ribbon-like band placed at the outer side of the levator-palati, which arising from the scaphoid fossa at the base of the internal pterygoid plate as far back as the spine of the sphenoid, and from the cartilaginous portion of the Eustachian tube, descends vertically to wind around the hamular process, and spread itself by a broad aponeurosis upon the anterior face of the palate.

Playing around this pulley you can see that its strong action would be sufficient to destroy the most skillfully performed operation; and in almost every case it becomes necessary to divide it. This is best done at the point where its tendon winds around the hamular process. To find this point you have only to carry your finger just posteriorly to the position of the wisdom tooth, when you will immediately come upon the tuberosity of the superior maxilla; then you have but to go back one half inch more, and this prominent hard process will be easily recognized. As the tendon is here passing from behind, outward inward and forward, you have but to make a simple oblique incision down upon the bone when all strain will be quickly removed. There is but little risk of the posterior dental vessels, since they are, as a rule, concealed by the tuberosity itself.

The next muscle is the levator palati which arising from the petrous portion of the temporal bone, passes into the interior of the pharynx, and then descends obliquely downward and inward, spreading its fibres out over the posterior surfaces of the soft palate as far as the raphé. When this is put upon the stretch, it may be divided by the plan of

Sir Wm. Ferguson, who affected its incision by a curved knife introduced behind the flap, half-way between the hamular process and the Eustachian tube, and perpendicular to a line drawn between them. A better plan, however, is that of Mr. Pollock. The flap being put upon the stretch, a double-edged knife is passed through the soft palate just on the inner side of the hamular process, and above the line of the muscle. The handle being now alternately raised and depressed, a sweeping cut is made along the posterior surface of the soft palate, and the knife withdrawn leaving only a small opening in the mucous membrane on the anterior surface.

Remembering what I have now told you, you have all the surgical anatomy which will be needed, the azygos uvulæ muscle being of no particular importance.

The operation as described in the text books consist of four different stages:—

1. The paring of the edges of the cleft.
2. The introduction of sutures.
3. The bringing together of the freshened edges, and fixing the ligatures.
4. The relief of any tension upon the ligatures which may attend the approximation of the parts.

I have not the time to describe the various modes of accomplishing these results, gentlemen, but will simply show you by successive manipulations upon this boy the procedures which I myself employ.

Having assumed the position behind the patient which I have before indicated, I carry the tenaculum through the point of the uvula, fix it firmly and make a complete and perfect paring of the entire edge, cutting from behind forward to the very apex of the cleft and extending one line in depth. A similar incision is now made on the opposite side, care being taken that no points remain uncut. The boy proves remarkably courageous, and I think ether will not be necessary.

Having seen that the entire surface is well freshened, we will give him the gargle of diluted tincture of iodine and wait for the hemorrhage to cease.

The next step in the introduction of the ligatures, and the material which I always employ, is pure silver wire, since it is un-irritating and can be retained in the tissues for a long time without producing irritation and sloughing, and moreover is much easier fastened than is a silk knot.

The first wire carried through is the one nearest the hard palate, and is easily accomplished if the needle is small and of the proper curve. The needle is carefully fastened in its carrier and then thrust through one side about three lines from the edge, and nearly half an inch from the apex, when it can easily be seized with forceps and drawn through, while the porte is disengaged, again to be applied and the needle carried through a corresponding point on the opposite side to be similarly drawn through and brought out the mouth, there to be slightly twisted with its fellow for further manipulation.

Other ligatures to the number required are then passed in the same manner at distances of one-third or one-half inch, two being sufficient in this boy's case.

Now comes the third stage. The two ends of the first ligature, (the one nearest the hard palate), which were twisted together are now passed through the fenestrum of a shot-carrier, and the parts drawn together, as the instrument is brought down. Having seen that they are movable, the shot is pushed down with the same instrument, and when the proper amount of tension is produced, the shot is compressed tightly upon the wires, and the ligature is complete, and may be cut off close to the button.

The other ligatures may be treated in the same way, but if there is much tension, do not neglect to divide the muscles as I have already shown you, which is the fourth part of the operation, and one which is highly essential.

The arches may be nicked or the muscles divided, or both, according to the circumstances of the case, and in the manner I have before shown.

Now we have fulfilled all the indications; we have brought the freshening edges in accurate apposition, all strain has been removed, and our ligatures are not so tight as to quickly slough themselves out.

There should be now no failure, and yet such often does occur, and largely, I think, (when the patient is in a healthy condition), to their own imprudence in not keeping the parts entirely and absolutely at rest. I believe that better results would be obtained if we would insist upon their remaining in bed for a few days, thus keeping all the muscles of the body in a state of constant quietude.

Food also should only be given in minute quantities, and should always be liquid for one week. Talking should also be strictly prohibited.

The silver sutures will seldom cause much irritation, and they may be allowed to remain from one to twenty days. I am sure you will find them far better than silk, beside being much more easily managed and fastened.

With the operation performed in the manner I have mentioned, I am sure you will find it a much more simple affair than you have been accustomed to suppose from the descriptions in the books; and especially do I feel that much advantage will be gained by the position behind the patient.

CASES IV, V, AND VI.

I have here three more cases which present various degrees of cleft, one of them extending a little deeper than the uvula, one entirely through the soft palate, and the other through the soft palate and a considerable distance into the hard. Two of them are children, one being of such age as to require ether, since we can expect no co-operation, but the last is a man of thirty years of age.

The manipulations will be precisely the same as those practiced in the preceding case,

differing only in the extent of the incisions and the number of the sutures. [Operations all successfully performed. DE F. W.]

Lastly, here is a man who has a large perforation of hard and soft palates from the ravages of syphilis. The opening is so extensive as to forbid all hopes of relief, and we can only adapt an obturator, which will form an artificial roof to his mouth, and be of great comfort and utility. As to the manner of constructing these obturators, I cannot consume sufficient time this morning for a description, but will rather refer you to the various works on Dental Surgery, which will contain all necessary information. If you reside in cities, you will seldom construct them yourselves; if in the country, I am sure you will find it more convenient to call in the assistance, tools and appliances of a neighboring dentist. Should the break be very small, you may possibly be able to close it by the operation of palato-plasty, staphyloplasty or uranoplasty.

Should you decide to perform an operation, you will find it of advantage to dissect up the periosteum freely with your flaps on either side, that the new tissue formed may be more solid in its composition. If the opening is minute, simple freshening of the edges with cantharides may be sufficient; but in either case I think you will obtain better results by introducing an obturator during the cure, in order to give support to the granulations. If tension is great after bringing the flaps together, perform myotomy on either side.

The domestic obturators, or plugs which are in such common use, should be unhesitatingly discountenanced, since such a plug of cotton or tow is constantly exerting pressure upon the delicate edges, and hastens absorption.

An example of their evil effects is seen in a specimen at St. Bartholomew's Hospital, where a woman had been accustomed to wear a cork in a palatal opening which was at first but small.

Its constant pressure produced absorption of the walls around it, and as the opening enlarged she increased the size of the plug, until at last all the palatine plates of both superior maxillary and palate bones were absorbed, the antra were both obliterated, the vomer was nearly destroyed, and the superior ethmoidal cells laid open. [Patient sent to instrument maker's. DE F. W.]

BELLEVUE HOSPITAL, NEW YORK.

Meningitis and Embolism Simulating Apoplexy.

Dr. Loomis recently reported the following interesting case from Bellevue Hospital, Dr. M. G. Millikin, House Physician.

H. C., 32, Swiss, entered hospital April 11th, 1871. Pale, emaciated, and troubled with cough and sputa.

April 15.—Whilst at supper in his ward, patient fell from his chair, and was picked

up insensible and conveyed to a bed. There was then noticed facial paralysis, and hemiplegia on right side, with spasmodic condition of all the muscles. To this succeeded marked delirium, with a temperature of 104 and a pulse of 120. Right hand cold, but left quite warm.

April 16.—Motion slightly improved; general condition worse. On physical examination, signs of pneumonia are detected at the apex of the lung. Patient lingered in coma, and died on April 19. Previous to death, the heart was examined, but no murmur was heard.

Autopsy.—Brain showed evidences of meningitis. The left middle cerebral artery was plugged up by a red embolus.

Heart.—There was detected a very marked stenosis of the mitral valve on the left side.

The interest of the case rests not only upon the coincidence of embolism and meningitis, but also on the fact that after a careful examination of the heart-sounds nothing abnormal could be discovered.

Poisoning by Hydrate of Chloral—Strychnia as an Antidote.

Under the care of Dr. CHAS. MARSHALL.

A child one year old had been suffering from general irritability, complicating a prolonged diarrhoea. At 12 o'clock a mixture containing three grains of chloral was ordered, one-third of the whole mixture to be given every three hours. By a mistake of the nurse the whole three grains were given at once. At 8 o'clock the patient was again seen. The pupils were contracted, respiration gasping, with general prostration. 1-32 gr. of strychnia was now administered as an antidote, but no good result followed. To ward off the approaching syncope, a cold plunge bath was given, followed by a mustard bath, but without avail.

Child died at ten o'clock, ten hours after taking the fatal dose. At the post-mortem the mucous membrane of the stomach was found normal, but in it there was a marked odor of the hydrate.

The intestines showed entero-colitis, but it is not probable from the progress of the case that this was the determining cause of death.

A Meteorite.

The recent fall of a twelve-pound meteoric stone at Searsport, Massachusetts, was preceded by an explosion like the report of a heavy gun, followed by a rushing sound, like the escape of steam from a boiler. The sound seemed to come from the south and to move northwardly. The stone dropped with such force that it sank two feet into the ground, but was seen to fall, and was quickly dug out. It was quite hot and broken, however, and could only be removed in pieces. Its color was gray, except the outside, which was black, and showed plainly the effect of melting heat.

Editorial Department.

PERISCOPE.

SOME NEW REMEDIES.

Dr. BENJAMIN W. RICHARDSON reviews a number of new remedies in the *London Practitioner*. His article deserves quoting at length.

I.—ORGANIC BROMIDES.

The success that has attended the administration of some of the inorganic bromides, the potassium bromide especially, has led me in the past few months to prescribe organic bromides, and as the results of the experience have been in many ways satisfactory, I venture to record them. The physiological action of bromine itself—the element—is definite and well pronounced. In the old parlance it is an irritant, but the term does not strictly indicate all that it effects. To a certain extent a volatile body, it produces, when it is inhaled, a peculiar constricting action in the vessels which supply the secreting surfaces with their blood, so that inhalation of its diluted vapor makes the mucous surfaces with which it comes into contact dry and painful. After a time there is what may be called a reaction, due probably to temporary paralysis of the vessels, and then there follows a free excretion of fluid, what the older writers would designate a flux or salivation, attended with some degree of local insensibility.

Applied directly, in the liquid form, to the body, and especially to a mucous surface, it acts as a direct destructive of tissue, not precisely as a caustic, but as a substance which leads to shrinking and slow death, with still more determinate local insensibility.

In combination with other elements, as with potassium, its direct action is modified but not removed. Passing through the tissues in a condition of fine distribution, and probably separating from its ally, it exerts on the nervous matter its special sedative influence, causing, if it be carried far enough, its direct paralyzing influence over the vessels which govern a secretion, and leading to a certain extent to decreased sensibility of the nerves which govern common sensibility.

On the whole, bromine may be considered as a medicine which acts primarily on the sympathetic or organic system of the nervous system, and as a modifier of vascular tension; and this, whether it be applied locally and directly, or generally and indirectly—i. e. in combination.

Thus we may rationally administer bromine with any other substance with which it will enter into chemical form of combination; we may trust to the development of its due independent action, without regard

to the action of the substance with which it may be combined, and we may be satisfied that it will not materially interfere with the action of the agent with which it has been made to combine.

Bromide of Quinine.

Bromide of quinine is formed by subjecting the alkaloid quinia to hydrobromic acid, or by acting on a salt of the alkaloid with bromide of potassium. The bromide of quinine is soluble, and, mixed with simple syrup, is ready for administration as a medicine. I prefer to employ it as a syrup containing one grain of it in every fluid drachm. The dose of this syrup is from one to four fluid drachms.

Bromide of Morphine.

Bromide of morphine is made by a similar process to that used for making bromide of quinine; morphine or a salt of morphine being substituted for quinine or a quinine salt. This compound also makes up best in the form of a syrup, and the preparation I prescribe contains an eighth of a grain of bromide of morphine in a fluid drachm of simple syrup. The dose of this syrup is from one to four fluid drachms.

Bromide of Strychnine.

Bromide of strychnine is made in the same way as the two last-named preparations; strychnine, or a salt of it, taking the place of quinine or morphine. This, again, I always prescribe as a syrup, one thirty-second of a grain of the bromide being contained in one fluid drachm of the simple syrup. The dose of this syrup is from one to four fluid drachms.

Combinations.

I am in the habit of sometimes combining the preparations named above, in order to suit particular cases of disease. For example, I combine the bromide of quinine and morphine in syrup, so that each fluid drachm of the syrup contains a grain of the salt of quinine with an eighth of a grain of the salt of morphine; or I combine the three salts, so that the fluid drachm of syrup contains a grain of the quinine, an eighth of a grain of the morphine, and a thirty-second of a grain of the strychnine salt. Speaking generally of all these salts, I may state that, in action, the bromide throughout, in so far as its action is indicated, is eliminative and sedative. I am satisfied the bromide of quinine can be administered freely, when quinine itself, or any other salts of it, cannot be readily tolerated. I am equally clear that the bromide favors the sedative action of morphia, while it at the same time allays the astringency which morphia induces;

and lastly, I am satisfied from experiment that bromide reduces, or rather subdues and prolongs, the action of strychnine on muscular motion.

Notes on Practice.

I have prescribed bromide of quinine, and the other bromides named, in a large number of cases of disease, and with results I did not fully expect. I will proceed briefly to indicate the leading facts that have occurred to me in the course of observation.

Bromide of quinine simply appears to me to be of good service in cases where certain special and persistent symptoms follow upon syphilis. I hardly speak now of the symptoms which patients themselves connect with that malady, but rather of those insidious symptoms which we, as medical men, who have lived long enough to have seen years of practice, trace back to a syphilitic basis, hereditary or acquired. A case of recurring rheumatism of this nature; a case of recurring ulceration of the fauces; a case of general nervous exhaustion, with flying pains in the limbs, loss of appetite, general debility, loss of hair, and remaining thickening enlargement in the groin, a sequence of bubo: these have been instances in which the administration of the bromide of quinine, in doses of from two to three grains three times a day, has been more immediately and determinately beneficial than any other treatment I have either practiced myself, or seen practiced by my brethren of physic, in such forms of disease.

One great advantage of this preparation seems to me to be, that it allows one to give much larger doses of quinine than are common, and in frequent and continued doses without setting up the symptoms of headache, oppression, and ringing in the ears, which mark what has been called cinchonism. Thus we may give three grains of bromide of quinine, three times a day, without inconvenience for several days if a smaller dose does not suffice.

I have an idea that the bromide of quinine might be administered with advantage in the earlier stages of the contagious diseases, such as small-pox. It would, I think, allay the severe nervous symptoms which usher in these diseases, and so moderate the secondary symptoms that follow in train. Since I began to introduce the bromide into practice, I have not had an opportunity of putting this suggestion to the test, but I have sent some of the preparation to Mr. Marson, of the Small-pox Hospital, asking him to give it impartial trial. I have also asked my friend, Dr. Broadbent, to make trial of it at the Fever Hospital in cases of acute febrile disorders. The results they obtain I shall hope to communicate in a future number of this journal.

Bromide of Morphine

Is a useful addition to the salts of the alkaloid. It seems to me that a smaller dose of the salt than is effective in the case of the other morphine salts produces as distinct a narcotic influence, and also that the dose

may be repeated more frequently without producing those after-effects of an opiate which tell against repetition of administration. For instance, in a case of extreme depression of a nervous kind, attended with determinate insania, in which, owing to the headache and nausea it produced, the muriate of morphia had been replaced by chloral hydrate, as the latter remedy had been continued until it had become hurtful, I prescribed the fourth of a grain of bromide of morphia at bedtime with excellent results, producing sleep without production of nausea or other distressing symptom. Knowing too well how apt we are to ascribe an efficacy to new remedies which belongs to other causes, I pen these first impressions on the action of this bromide with all due reserve. I write, in fact, mainly to secure the larger experience which will ensue when many acute observers are bringing the same remedy into daily use.

The Bromides of Quinine and Morphine

in combination constitute a remedy of which in cases suited for their administration, I cannot speak too favorably. Four classes of disease seem to me to be specially benefited by this compound; viz., neuralgic fever, cerebral irritation, diabetic phthisis, and extreme acute attacks of intermittent pulse, the result of organic nervous shock. In acute neuralgia I administer a drachm of the syrup of bromide of quinine and morphia to an adult every two hours until the pain is altogether removed, and am able to report not only that pains can be effectually removed by it, but that the medicine exerts no derangement of the body that lessens its value. It calms pain without inducing deep narcotism, it interferes little with the secretions, it rarely causes nausea, and it interferes little with the appetite. In the case of an esteemed member of our own profession, who has been for twelve months under my care, suffering from right hemiplegia, the most distressing symptom I have had to meet has been intense sciatic neuralgia. After a run of all narcotic tonic measures, I found happily in the bromide of quinine and iron a remedy which has now for three months held him free of suffering, and, as a consequence of freedom from pain and sleepless weariness, has led to a distinct improvement in his general health.

In diabetic phthisis I have administered the bromide of quinine and morphia with the same freedom. Under its influence, in these cases, the quantity of sugar and of fluid excreted by the urine notably decreases, cough is relieved, the appetite and digestive power is improved, and recurrent hectic is held in abeyance more certainly, I think, than by any other remedy or combination of remedies with which I am practically conversant.

In a case of intermittent pulse, where the lapse in the heart-stroke was painfully frequent, where there was continued feverish restlessness, and a fear of going to sleep that more than all sustained the irregular ner-

vous action, the symptoms gave way at once under a few doses of bromide of quinine and morphia in a manner that was as gratifying to the prescriber as to the patient. The purpose of the medicine, in a word, was promptly fulfilled, and as demonstrably as if it had afforded mechanical instead of therapeutical relief. In a second case of intermittent pulse, where the intermittency is the prelude of great mental excitement, followed by depression and melancholia, the remedy has exerted a similar beneficent influence. It induces rest and sleep without the production of deep narcotism and without deranging digestion.

The Bromide of Strychnine

has rendered unquestionable service in a few cases of dyspepsia with and from deficient nervous control over the vascular supply of the organs concerned in the process of digestion, in cases of partial organic nervous paralysis of the ventricular division of the organic nervous system. In such cases of disease, and they are by no means uncommon, where, when the body is without food, there is a knowledge of hunger without the true sense of it; when there is congestion of liver, and suppressed secretion to-day, accompanied by giddiness and irritability and precordial oppression, with diarrhoea to-morrow, and then constipation: in these cases the bromide of strychnine in the proportion of one thirty-second of a grain may be given three times daily with marked advantage, an alternative being at the same time occasionally added.

In some mixed cases of nervous pain, with want of organic nervous action in the digestive organs, I have combined the bromide of strychnine with bromide of quinine, and in many cases of this nature I have prescribed the three bromides with good results.

Syrup of the bromide of quinine and strychnine, and syrup of the bromide of quinine, morphine and strychnine, will both, I believe, become favorite compounds with the profession, finding their place as Eastin's syrup of the superphosphate of iron, quinine, and strychnine has found its place in the list of tried and approved medicaments.

One other point of practice remains to me only to note. In cases where there is much dryness and irritability of the mucous membrane of the pharynx and larynx, the bromides are not commendable; the bromine increases the irritation. This was so marked in a case where there was a small ulcerated surface in the larynx, that I had to stop the administration altogether, the smallest dose producing violent and long-continued irritative cough and spasm.

Hydrobromic Ether.

Amongst other bromides that have medicinal qualities is hydrobromic ether, bromide of ethyl— C_2H_5Br . This ether is a light volatile liquid made by distilling four parts of powdered bromide of potassium, with five parts of a mixture consisting of two

parts of strong sulphuric acid and one of alcohol, having a boiling-point of 104° Fahr., a specific gravity of 1.400, and a vapor density of 54, taking hydrogen as unity. It is nearly insoluble in the blood.

This ether is of interest from the fact that the late Mr. Nunneley, of Leeds, proposed and used it as a general anæsthetic, and came to the conclusion that it was the best and safest of all known anæsthetic substances. A few weeks before his death I had the pleasure of visiting Mr. Nunneley, and in the course of our many conversations on scientific subjects, he spoke again of his experience with the bromide, and begged of me to submit it to a fair and strict investigation. I have carried out his wish, and can report upon hydrobromic ether, that it is as Mr. Nunneley said of it, one of the safest of general anæsthetics. An atmosphere containing from eight to nine per cent. of the vapor of the bromide of ethyl, causes, when inhaled, entire destruction of common sensibility, rapidly and safely. The breathing remains tranquil, the pulse quiet, the expression good; the transition from the first to the third degree of narcotism is, moreover, so rapid that the second degree—degree of muscular excitement—is scarcely recognizable. There is no sign of apnoea; and when, in animals, the inhalation is carried to the extreme, the resistance of the heart to the paralyzing action of the narcotic is good. As might be expected from the low boiling-point of the ether, 104° Fahr., and its insolubility in the blood, it is rapidly eliminated from the body when it has been withdrawn, so that the period of recovery is short, from three to five minutes.

When inferior animals are made to sleep into death by the vapor of the bromide of ethyl, the heart is found, directly after death, with blood on both sides and free of vascular congestion. The color of the blood on each side is natural, and the lungs are left charged, without being surcharged, with blood. The coagulation of the blood is natural. The heart retains its irritability for as long a period of time as after death from methylic ether.

Mr. Nunneley's favorable opinion on the action of hydrobromic ether is therefore confirmed in respect to essentials, but I am not thereupon inclined to suggest that it should be employed in place of other and better known general anæsthetics. For, irrespectively of the trouble and cost of making the ether, it has certain faults which are opposed to its general employment. It causes irritation of the throat in some cases, and occasionally vomiting; added to these objections, the fluid easily undergoes change on exposure to the air, with liberation of free bromine, when it becomes difficult, if not dangerous, to inhale.

Bromide of Methyl.

In 1867-8 I made some researches with bromide of ethyl, C_2H_5Br , a gas made by mixing at a low temperature fifty parts of bromine, two hundred of methylic alcohol,

and seven of phosphorus. By using cold the ether can be distilled over as a fluid, but it boils at 55° Fahr., and is therefore at ordinary temperature a gas. Its vapor density is 48. Bromide of methyl, like bromide of ethyl, is an anæsthetic equally effective as the latter, and sharing in all its faults.

As matter of physiological rather than of practical interest, I have recorded these facts respecting the bromides of ethyl and methyl; but there is another point in which they may be considered, and which is of direct practical worth. They are both powerful deodorizers and destructives of decomposing organic matter; and as they are from their volatility capable of being conveyed in fluid state of subdivision, they might be employed with advantage in many forms of disease. In phagedenic or malignant ulceration of the throat or skin, in cases where a cavity in the lung contains offensive secretion, and in uterine affections where there is accumulation of decomposing fluid, the hydrobromic ether, as the most manageable, might well be brought into action. It could be inhaled when the throat and lungs were the seats of disease; it could be allowed simply to diffuse from cotton-wool over open surfaces or into the uterine cavity.

Advantages of Wealth.

Dr. CHARLES R. DRYSDALE, physician to the North London Hospital for Consumption, says in *the Press and Circular* :—

The favorite writer on "Logic and Metaphysics" of this country at present, Mr. Alexander Bain, in an essay on "Happiness" says truly "that prime requisite of happiness, health, is very imperfectly secured in the lowest grades, even of respectable citizenship. The public registers have demonstrated that mortality and disease diminish at every rise in the scale of wealth." And the voluminous author of the treatise on "Hygiene," M. Lévy, only re-echoes this sentiment, when he says, "it is too true that the duration of life is by no means equal in the different classes of society. Some there are which attain, on an average, seventy years of age; and others which do not go beyond forty-five." Lombard, of Geneva, asserts that easy circumstances add 75 years, and poverty subtracts 75 years from the mean length of life; and M. D'Espine, in the *Annales D'Hygiene*, 1830, showed that tubercular diseases occasioned 68 deaths per 1,000 among the rich, and more than 230 in 1,000 among the poor. The writer of these lines is fully persuaded of the truth of this latter statement from his long experience as physician to a Metropolitan Hospital for Consumption and Diseases of the Chest. Villermé, the great writer on "Hygiene," of Paris, showed long ago, in one of his essays that, in the second quarter of Paris, where non-taxed lodgings formed only 0.07 of the whole number, the mortality was 1 in 62 inhabitants; whilst, in the twelfth quarter, where 0.38 of the apartments were untaxed, *i. e.*, where the people were the poorest, the deaths were 1 in

43. The infantile mortality of our large towns, too, is one of the forms in which the *struggle for existence* of Darwin shows itself. Thus, 132 children out of 1,000 under the age of five die annually in Liverpool; 66.9 in Islington, London, and only 33 in 1,000 in healthy country districts. Nor do we wonder at this when we hear that, even in Marylebone parish, London, there were recently nineteen houses in one court, in which eighty-nine families crowded together, comprising 300 persons, and where 'a man, his wife and five children are found, in this court in a room eight feet square, with a small opening for a window, but no glass.' Dr. Tripe, of Hackney, mentioned one evening that if the new act against over-crowding were carried out, 10,000 persons would be forced to sleep in the streets of Whitechapel, London.

Origin of Sugar in Diabetes.

At a clinic reported in the *Medical Press and Circular*, Dr. BASHAM remarked:—

There are five predominant theories which endeavor to trace or account for the excess of sugar formed in diabetes.

First. Bouchardat's theory. The amylaceous or starch elements of our food are converted into sugar by several animal products. The saliva, the pancreatic secretion, the gastric fluid rendered alkaline (having lost its property of dissolving flesh), continues capable of converting starch into glucose. He considers the sugar of diabetes to be principally, if not entirely, formed from the farinaceous series of foods. He thinks diabetic persons digest these articles of food differently from healthy persons.

Secondly. Claude Bernard's discovery of the sugar-forming function of the liver has led to the opinion that diabetes consists in an over-activity of this function, and there are many who, following these views, consider the liver as the chief, if not the only, organ at fault. But this over-activity of the glucogenetic function of the liver is supposed to arise from some undue excitation of the great sympathetic system of nerves.

Thirdly. A general and irritable state of the nervous system being a frequent, if not a constant, symptom in diabetes, and as Claude Bernard records that irritation of the ganglionic centre in the medulla oblongata exercises a special influence over the functions and actions of the liver, and, moreover, as Flourens has shown, that irritation of the floor of the fourth ventricle led to the presence of sugar in the urine of the animal operated on, it has been conceived that the nervous centres are remotely the cause of this singular disturbance in the functions of the organism.

Fourthly. It has been held by some that a defective respiratory process, by not consuming the elements of sugar in the lungs, might account for the accumulation of the sugar in the blood and its presence in the urine. M. Reynoso affirms that in almost all cases in which the function of respira-

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tion is impeded, sugar appears in the urine. Patients under the influence of ether or chloroform, in the advanced stage of tubercle, in pleurisy, in asthma, hysteria, and epilepsy, in experiments on animals prevented from breathing freely, sugar was universally present in the urine.

Fifthly. The importance, the absolute necessity for the presence of certain alkaline salts in the blood, without which the further metamorphosis of many excrementitious substances would be incomplete, is well known. M. Mialh has proved by the analysis of the blood in diabetic patients, that it is deficient in these alkaline salts; he states that the farina of our food is converted with equal activity into sugar both in health and in diabetes. But in health the sugar is decomposed or burnt off by the presence of these alkaline salts by the agency of the oxygen in the lungs; but in diabetes the decomposition does not take place, owing to the deficiency of these important constituents, and the sugar undergoing no further metamorphosis, passes off as such through the kidneys.

A New Test for Hysteria.

A French work just issued by Dr. Chairon, Chief Medical Officer to the Vesinet Asylum, entitled "Clinical Studies on Hysteria," announces the discovery by him of a new pathognomonic sign of hysteria, which, should it be confirmed by experience, will prove to be a valuable contribution to medicine. Since Dr. Chairon has become connected with the Institution, he has passed under view 26,000 female patients, amongst whom were a great many cases of hysteria. He says that he has ascertained that in every one of them the commencement of the affection has been marked by a special sign—insensibility of the epiglottis.

The determination of this symptom, which is constantly present, is very simple. It is sufficient to introduce gently the finger into the mouth, so as not to frighten the patient, and place it on the base of the tongue. It will be found that the epiglottis may be touched, displaced and scratched with the nail without producing the least regurgitation. When this system exists there will be found invariably a congestion of one or both ovaries, usually of the left.

Sluggish as this proposition is, the author proceeds to prove its exactitude, and has, with that object, quoted a great number of cases collected at Vesinet.

Phosphorus.

At a late meeting of the Clinical Society, Dr. Broadbent read a lengthy paper "On Phosphorus as a remedy in Skin Diseases," in which he suggested that if the action of remedies and poisons on the human organism is due to their chemical properties, substances allied chemically ought to have an analogous physiological and therapeutical influence, or the diversity in their action ought to be explicable on chemical grounds; in other words, chemical groups should form

therapeutical groups. The question, then, is—Given a distinct and well ascertained physiological or therapeutical effect, can results in any way similar be obtained from the chemical allies of the body producing it? The group of which phosphorus is the head chemically, and of which arsenic is the chief representative in therapeutics, affords an opportunity for the application of this test. Its four members, phosphorus, arsenic, antimony, and bismuth, stand in the order named in regard to equivalent numbers, physical properties, and chemical energy; and their compounds with other elementary bodies form analogous series. Excluding bismuth, which, from its feeble affinities and tendency to form insoluble compounds, may be considered inert, there is in the mode of action of phosphorus, arsenic, and antimony, as poisons, and in the tissue, changes they induce, a parallelism as remarkable as that of the chemical properties of these bodies, both in the energy and in the character of the physiological effects. The opportunity for bringing out further therapeutical parallelism is furnished by the well-known curative action of arsenic in certain classes of skin disease, such as some forms of eczema and psoriasis. Dr. Broadbent took cases of this kind, and instead of arsenic exhibited phosphorus. Two grains were dissolved in oil, and from three to seven drops of the solution given, usually in mucilage, three times a day after meals. Six cases of eczema were related, in all but one of which the phosphorus was decidedly beneficial. The object of Dr. Broadbent's communication was not to bring forward a new remedy for skin diseases, but to exhibit one more analogy between phosphorus and arsenic. If phosphorus were as manageable and as little disagreeable as arsenic, it would probably, according to his experience, be found superior in efficacy.

Croup.

Mr. H. G. Croly, at a late meeting of the Surgical Society of Ireland, exhibited a membrane cast off in croup during the life of the patient. The child was four years and two months old, and was admitted to hospital under his care on Tuesday last. It had been suffering from the previous Sunday night with all the symptoms of croup, and on admission the case was one of extreme urgency. The child was covered with a cold, clammy sweat, had stridulous breathing, rapid pulse, and was almost on the point of death. The treatment adopted was to restore her, and he gave her an emetic of eight grains of sulphate of zinc. It acted, but the child was apparently dying, and a second dose was given. The child pointed to her mouth, and the mother inserting her fingers, seized and pulled up the membrane, which they saw in the bottle. The child said, "Look at this maggot; I am quite well!" The false membrane when he (Dr. Croly) saw it, looked like the wetted finger of a glove. Knowing that exacerbation of the disease was likely to set in, he did not

relax in his treatment of the case. That night the child got worse, and the next morning better, and so the symptoms went on till eight o'clock last evening, when she died, apparently of exhaustion. On making a *post-mortem* examination, assisted by his colleague, Dr. Hewitt, he found the lungs emphysematous, with considerable congestion of the back of the lung, partly no doubt due to gravitation. In the heart was a large clot, which was adherent, and which extended into the pulmonary artery. There was also a clot in the left auriculo-ventricular opening, and on opening the larynx he found the remains of the false membrane. It extended to the bifurcation of the trachea, and was more marked in the region of the larynx than in the trachea. As the specimen cast off during life was rare, he thought it well to lay it before the Society.

Therapeutical Contributions.

Dr. CLODIMIR BONFIGLI passes in review in the *Revista Clinica di Bologna* a number of interesting therapeutical contributions. Professor Dessi-Caroni cured two cases of tetanus by opiates and warm baths. Bromal hydrate has been used in epilepsy by Steinhauer; and perchloride of ethyl pointed out by Oscar Liebreich has been used as an anæsthetic in twelve operations by Langenbeck, Bardeleben, and Albrecht. Dr. Cororra has tried with success subcutaneous injection of curare as an antidote to strychnine. M. Bergeron has had satisfactory results from cubebs in diphtheria. Dr. Sonnis cured a case of psoriasis that had resisted all remedies by means of copiba. M. Guyot finds phosphate of lime the best remedy for the night sweats of phthisis.

Reviews and Book Notices.

NOTES ON BOOKS.

—The "Medical Register and Directory of the United States," in course of preparation, and to be published in a month or six weeks, by Dr. J. M. TONER, will contain the names and post-office address of 50,000 physicians.

It will also contain the names, location, and personnel of the various medical colleges, hospitals and asylums of the country. The names of the more active medical societies, with their officers, will also be noticed, with much other information of general interest to the profession. Indeed, it is designed to make it a valuable hand-book for all matters of public interest relating to the medical men and medical institutions of our country.

—DR. LAUDER LINDSAY has reprinted his essay on the "Physiology and Pathology of the Mind in the Lower Animals," in which he insists that the mind of the lower animals does not differ in kind from that of man; and that they possess the same affections, virtues, moral sense, and capacity for education, and are liable to the same kinds of mental disorders.

—We have seen the advance sheets of a new work on Diseases of the Ear, by LAURENCE TURNBULL, M. D., of this city, now in press, and soon to be issued by J. B. LIPPINCOTT & Co. Dr. TURNBULL needs no introduction to the readers of the REPORTER. The work is well illustrated and printed, and appears to be practical. It will be noticed more at length when issued.

—The following works are announced by Dr. S. W. BUTLER:—

I.

CANCER: ITS CLASSIFICATION AND REMEDIES. By J. W. BRIGHT, M.D., of Lexington, Ky. 8vo. About 200 pp. *Nearly ready.* Price, \$2.00, sent by mail, postage paid.

II.

VESICO-VAGINAL FISTULA: ITS HISTORY AND TREATMENT. *Second Edition.* By D. HAYES AGNEW, M. D., Professor of Surgery and of Clinical Surgery in the University of Pennsylvania.

To which will be added, by the same author, AN ESSAY ON RUPTURED PERINEUM AND ITS SURGICAL TREATMENT. With Illustrations.

III.

CONSUMPTION: ITS PATHOLOGY AND TREATMENT. By WILLIAM MINOR LOGAN, M. D., of Cincinnati, Ohio.

IV.

THE PHYSICIAN'S ANNUAL FOR 1872: A COMPLETE CALENDAR AND MANUAL FOR THE CITY AND COUNTRY PRACTITIONER. By S. W. BUTLER, M. D. Edited by GEO. H. NAPHEYS, M. D. Price, 50 cents.

This Annual will comprise a Monthly Calendar, Hospital Calendar of the principal cities of the United States, Chronological Record, a list of Medical Colleges and Institutions, a complete list of Medical Societies of the United States, with form of Constitution for Medical Societies; Priced Catalogues of Medical Books, Surgical Instruments, etc., besides much other information of interest and importance to physicians.

MEDICAL AND SURGICAL REPORTER.

PHILADELPHIA, JULY 29, 1871.

S. W. BUTLER, M.D.,
D. G. BRINTON, M.D., } Editors.

☞ Medical Society and Clinical Reports, Notes and Observations, Foreign and Domestic Correspondence, News, etc., etc., of general medical interest, are respectfully solicited.

Articles of special interest, such especially as require original experimental research, analysis, or observation, will be liberally paid for.

☞ To insure publication, articles must be *practical, brief as possible* to do justice to the subject, and *carefully prepared*, so as to require but little revision.

☞ Subscribers are requested to forward to us copies of newspapers containing reports of Medical Society meetings, or other items of special medical interest.

We particularly value the practical experience of country practitioners, many of whom possess a fund of information that rightfully belongs to the profession.

The Proprietor and Editors disclaim all responsibility for statements made over the names of correspondents.

THE CRUELTY OF PHYSIOLOGISTS.

Periodically there arises an outcry in the public press against the cruelty toward animals of which those physiologists are guilty, to prosecute experiments upon the living subject. At times Societies for the Prevention of Cruelty to Animals have had their attention quite powerfully directed to it.

Recently, several gentlemen, devotees of science, have been quite harshly criticized for their experiments. One of them is Dr. Rutherford, of London, who detailed in a medical journal the account of his experiments on decapitated frogs. The other is the eminent Italian, Professor Mantegazza, who recently reported a series of curious observations on the influence of pain upon digestion. Necessarily, his experiments seem in the highest degree barbarous to those who do not understand or who lose sight of his purpose.

The *Lancet*, in which journal Dr. Rutherford published his article, replies to those strictures. It calls attention to the fact that they are founded upon the very common

error of confusing irritability with sensibility—two attributes of nerve-tissue that are wholly and completely distinct from one another. The nerves, the spinal cord, and the muscles of the trunk, after the severance of the head, undoubtedly preserve their irritability in the frog for a considerable period, and by stimulation of the sensory nerves certain movements of a more or less purposive character can be called forth; but not only have we no evidence that sensibility, or the consciousness of pleasure or pain, can be aroused in such portion of the nervous system separated from the head, but all the evidence in our possession is directly opposed to this view. A large number of cases has now been placed on record, in which the spinal cord of man has received such serious injury as to be no longer capable of transmitting impressions to the brain. In such cases stimulation of the nerves of the lower extremities will occasion movements essentially similar in character to those of the decapitated frog, but which are absolutely unfelt; so that neither cuts nor burns produce pain. Experiments made on the higher mammals lead to the same result.

We are not of those who implicitly follow the famous theory of Des Cartes, that the sense of pain is entirely unknown to the lower animals, the phenomena by which we attribute to them that sensation being merely reflex nerve-action; but no doubt the sense is less acute in many of them.

Moreover, there is still the point to be made, that granting their sufferings are just as acute as ours, is it not right that we should cause that suffering if thereby we benefit the human race? The criminal laws of all communities do not hesitate to inflict the greatest amount of pain, both physical and mental, for the benefit of their members and the purpose of self-conservation; the physician does not draw back from the most severe procedures to arrest disease and restore health in the individual. Still less, it seems to us, should the physiologist doubt

the propriety of conducting whatever experiments upon the lower animals he deems essential to discover the laws of human organism, and protect it from far more general pain than any inflicted on individuals of inferior species.

In ancient times it was held to be an infamous sacrilege, punishable with death, for the anatomist to make his studies on the human subject; he had to judge of it from comparative anatomy only. Now the position is reversed almost; few exclaim against investigations upon the human frame, while many arise to speak against injury to dogs and cats.

THE GAILLARD-YANDELL IMBROGLIO.

Dr. GAILLARD claims that in our notice of the difficulty between him and Dr. YANDELL, which has occupied so much space in the Louisville medical and secular press, we have done him injustice. He says:—

"You will feel surprised, I know, when I tell you that there has never passed between Dr. Yandell and myself, either publicly or privately, an objectionable word. That I have never respected him, is true, and knowing the facts publicly stated to be true, could not respect him, but you were never more unjust and incorrect than when you stated that personal animosity has ever existed between us. Again, you say that I had the review of Dr. Yandell published in the daily papers. In reply, I have only to ask you to read my July editorial. The matter was carried into the papers with Dr. Yandell's knowledge and consent, and wholly unknown to me; and it was so carried because (as I have publicly repeated and published in my July issue) Dr. Yandell's personal friend, the editor of the *Courier-Journal*, believed the publication would enable Dr. Yandell to benefit himself by his reply. * * * My editorial was published in the daily paper here WITHOUT my knowledge, but WITH Dr. Yandell's knowledge, desire and consent."

Notes and Comments.

The Enormity of our Small Vices.

The consumption of tobacco exhibits an unparalleled rapidity of increase and extension. In 1689, the United Kingdom received 120,000 lbs. of tobacco, and it is ques-

tionable whether even that amount was actually smoked; in 1857, suppressing intermediate returns, the amount had risen to very nearly 33,000,000 lbs.; and in 1865, even this enormous total had doubled, being 66,000,000 lbs., an increase far in excess of that of population; and political economists may dwell thoughtfully on the fact that England now spends about as much per diem for tobacco as she does for bread! The *Food Journal* points out that, corn and cotton excepted, tobacco stands first in commercial importance. About 1858 nearly 6,000,000 of acres were devoted to tobacco culture; the average crop being some 800 lbs. per acre, which at a uniform rate of only 2d. per lb., yielded a gross value of £37,000,000. The hop, on the contrary, which is a most representative English plant, and worth six times as much as tobacco per pound, only yielded a value of 74,000,000.

Density of Population in Scotland.

The Registrar-General for Scotland has issued his statistical report of births, deaths, and marriages for 1868. On the question of density of population, the registrar says:—"The influence of density of population on the proportion of births is seen in the eight divisions into which Scotland is divided. Thus, in the north-west, where there are only twenty-three persons to a square mile, the births were 23.38 to every thousand persons; in the south, with sixty-six persons to a square mile, there were 31.20 births; in the north-east, with ninety-seven persons to a square mile, there were 33.98 births; in the east midland division, with 120 persons to a square mile, there were 35.14 births; in the south-east division, with 219 persons to a square mile, there were 38.14 births; while in the most densely populated south-western division, with 441 persons to a square mile, there were no fewer than 40.92 births.

Small Pox.

Dr. E. M. SNOW, Health Officer of Providence, R. I., says:—

The indications are that we may expect considerable small pox during the coming winter. It is more especially a disease of cold weather, though it has continued persistently in New York with little abatement in warm weather. It has also continued for a long time in Lowell, Nashua and other places. In Holyoke, a village of 10,000 in-

habitants, it has continued for a year or more, and there are now forty cases there.

It is exceedingly mortifying to read such statements in view of the fact that there is a perfectly sure preventive within the reach of all. And yet even in Providence there are many children not vaccinated who are liable to small-pox, and many adults who have been vaccinated only once, and are still liable to varioloid.

There can be no excuse for having small-pox in Providence, as the certain preventive is offered every week free to all the residents of the city.

How to Cure Stammering.

Since our profession do so little, practically, to relieve this trying infirmity, they must not take it amiss to receive a lesson from a layman who seems to have successfully grappled with and conquered the difficulty in his own case. Practical facts are what we want, from whatever source they come.

Lute A. Taylor, editor of the *La Crosse (Wis) Leader*, who has been an inveterate stammerer, writes as follows about the way to cure the habit: "No stammering person ever found any difficulty in singing. The reason of this is, that by observing the measure of the music—by keeping time—the organs of speech are kept in such position that enunciation is easy. Apply the same rule to reading or speech, and the same result will follow. Let the stammerer take a sentence, say this one, 'Leander swam the Hellespont,' and pronounce it by syllables, scan it, keeping time with his finger, if necessary, letting each syllable occupy the same time, thus, Le-an-der-swam-the-Hel-les-pont, and he will not stammer. Let him pronounce slowly at first, then faster, but still keeping time with words instead of syllables, and he will be surprised to find that, by very little practice, he will read without stammering, and nearly as rapidly as persons ordinarily talk or read. Then practice this in reading and conversation until the habit is broken up. Perseverance and attention are all that is necessary to perform a perfect cure.

French Medical Literature.

We have for a long time been deprived of French medical literature, and the following extract from the Paris correspondence of the *Publisher's Circular* does not encourage us to expect its speedy revival. There have, however, been so many evidences of recuperation in other matters that we hope literature will take an earlier start than is indicated in the following extract:—

"There is a complete stagnation of literary life here, and consequently great suffering among classes more or less connected with literature. Teachers of all sorts, translators, authors, publishers and booksellers find it hard work to get daily bread. Roof is secured to them for the present; but how few there are who will be able to pay the three quarters' rent now due! It is impossible to prosecute researches of any sort. Every library is closed, and is said all of them are so disarranged, it will take weeks if not months, after public order shall have been restored, before they can be placed on their old footing. Meantime, the whole tribe of jackals who provide food for our literary lions starve."

The Giants' Wedding.

The following item has more than a passing interest, and we give it preservation by copying it into our columns. It will be interesting to watch the issue of this marriage. Are we to have another race of giants? Nature rebelled against the propagation of a race of pigmies, if that would have been the result of the marriage of CHARLES S. STRATTON ("Tom Thumb") and MINNIE WARREN, by the early death of the issue:—

BATES—SWAN—At St. Martin's Church, London, June 17th, by the Rev. Talfourd Smith, 6 feet 3 inches tall, Capt. Martin Van Buren Bates, of Kentucky, formerly of the Confederate Army, United States, 8 feet high and weighing 400 lbs., and Miss Nora Swan, of Nova Scotia, 5 feet 4 inches in height, and also weighing 400 lbs.

Correspondence.

Chloroform vs. Chloral.

EDS. MED. AND SURG. REPORTER:

Some months ago, desiring to administer hydrate of chloral, and finding my supply exhausted, I substituted chloroform. I was so pleased with its effect as a hypnotic that I have continued its use. I believe it to be more reliable than the chloral. I give it in doses of from ten to thirty minims, dropping the chloroform on a little sugar in a teacup, and gradually adding water, the meanwhile briskly triturating with a spoon. I have not entirely dispensed with chloral, as it is more convenient to carry. Only a few days since I prescribed the chloral hydrate in a case of meningitis as a *denier resort*, after the use of active cathartics, bleeding, cold to the head, sinapisms to the extremities, blistering the back, etc. The patient was so violent as to require several persons to keep him in bed.

In spite of pretty constant watching he made his escape and jumped over the yard

fence and ran some twenty rods before he was caught. The hair was then closely clipped and the cold douche directed, but without any apparent relief. He continued violent and wakeful, not having slept for more than forty-eight hours, nor allowed any of the family to do so by his violent outeries, notwithstanding the endomatic use of morphine. I now gave him chloral. The first dose, \mathfrak{Hj} , quieted him for half an hour. Soon after he awakened; showing symptoms of returning violence; the dose was doubled, after which he slept ten hours, when he was rational. Since then his convalescence has been steadily progressing. I think it a valuable addition to the pharmacopœia, but not often advisable in chronic cases, or when there is much mortification inordinate.

W. W. ALEXANDER, M. D.

Athens, Tenn.

A Case of Serpent Bite.

EDS. MED. AND SURG. REPORTER:—

Having frequently noticed solicitations for communications from country practitioners, I accordingly submit the following case.

W. A., son of C. Kline, aged 13 years, and living eight miles in the country, was bitten by a serpent (black viper), at eleven o'clock the 4th inst., and at eight o'clock in the evening of the same day, in company with Dr. Fuller, I saw the patient. Found him fairly under the influence of the poison, the boy being bitten in the foot, immediately beneath the external malleolus. The foot and nearly the entire limb had by this time become enormously swollen. Pulse small, frequent, and irregular, and occasional vomitings and fainting; cold sweats, with a wild and wo-begone expression on his countenance.

The treatment adopted in this case was in part that proposed by the late lamented Dr. Brainard, of Chicago. This consists in infiltrating the tissue where the bite has been inflicted, with a solution made of five grains of iodine and fifteen grains of iodide of potassium, in a fluid ounce of distilled water (see Prof. Brainard's Essay, etc., Chicago, 1854), and in connection painting his limb with tinct. iodine, and at the same time administered five grains of iodide of potassium every five hours.

July 5.—Found our patient but little better; limb swollen; the entire length and

the lower part of the trunk also considerably swollen; slight pain in the bowels; pulse about the same as when last seen; faintings and vomiting had ceased; tongue slightly coated along the centre, with redness at the tip; eyes blood-shot. Continued treatment as before.

July 6.—Patient looking better; swelling diminished; pulse regular, and diminished in frequency, though feeble; tongue thickly coated; want of appetite, but general expression much improved. Treatment: sulphate quinia and podophillin in powder, with occasional small portions of wine, continuing the rest of the treatment as before.

July 8.—Patient much improved. Continued treatment of the 6th.

July 10.—Patient was entirely well.

After observing the effects, and in consideration of the results, in this case, we have acquired great faith in the antidotal qualities of iodine and iodide of potassa, and if needs be, will try them again.

I remain yours truly,

W. H. WIRT, M. D.

Loudonville, Ohio.

News and Miscellany.

Dr. Bentham on Darwinism.

The annual anniversary address of Mr. Bentham before the Linnæan Society of London is always looked forward to with interest from his ability and high standing. The *College Courant* extracts from his address, as reported in *Nature*, what he has to say of Darwinism and speculative science generally: "Systematic biology has, to a certain degree, been cast into the background by the great impulse given to the more speculative branches of the science by the promulgation of the Darwinian theories. The great thunderbolt had indeed been launched, but had not yet produced its full effect. We systematists, bred up in the doctrine of the fixed immutability of species within positive limits, who had always thought it one great object to ascertain what those limits were, and by what means species, in their never-ending variations and constant attempts to overstep those limits, were invariably checked and thrown back within their own domain, might at first have been disposed to restrict the revolutionary tendency of the new doctrine; but we felt shaken and

puzzled. The wide field opened for the exercise of speculative tendencies was soon overrun by numerous aspirants, a cry of contempt was raised against museum zoologists and herbarium botanists, and nothing was allowed to be scientific which was not theoretical and microscopical. But this has been carried in some instances too far. If facts without deductions are of little avail, assumptions without facts are worse than useless. Theorists in their disputes must bring forth the evidences they rely upon; and these evidences can only be derived from and tested by sound, systematic biology, which must resume and is resuming its proper position in the ranks of science, controlled and guided in its course by the results of those theories for which it has supplied the basis. If the absolute immutability of races is no longer to be relied upon, the greater number of them (whether genera, species, or varieties) are at the present or other geological period practically circumscribed within more or less definite limits. The ascertaining of those limits in every detail of form, structure, habit, and constitution, and the judicious appreciation of the very complicated relations borne to each other by the different races so limited, is as necessary as the supplementing the scantiness of data from the depths of Teutonic consciousness by the vivid flashes of Italian imagination, or as the magnifying minute as yet undeveloped organism, with a precision beyond what is fully justified by our best instruments."

Local Longevity.

Under this heading, the Philadelphia *Public Ledger* gives some very interesting statistics in regard to the instances of remarkable longevity that have occurred in its published obituary notices during the past six months. The record shows that during that period the deaths of no less than 280 persons had occurred who had reached over eighty years.

Of these 114 were males and 166 females, showing that the females outnumbered the males by 52, about three to two. A further analysis also demonstrates that whilst the females living over eighty years outnumbered the males, the females were also the longest lived, there being many more females than males who lived to or beyond the age of ninety years.

Of the one hundred and fourteen males

who lived to or beyond eighty years the following numbers reached the various ages designated; 80, twenty persons; 81, eight; 82, eleven; 83, fourteen; 84, seven; 85, seventeen; 86, six; 87, seven; 88, ten; 89, one, 90, two; 91, three; 94, two; 96, one; 97, one; 99, one; 105, one.

Of the one hundred and sixty-six females who lived to or beyond eighty years, the following numbers reached the various ages designated: 80, twenty persons; 81, twelve; 82, fourteen; 83, sixteen; 84, thirteen; 85, twenty; 86, twelve; 87, eleven; 88, ten; 89, two; 90, ten; 91, five; 92, four; 93, three; 94, two; 95, one; 96, four; 98, one; 90, one; 101, one; 102, two; 105, one.

Of the above 49 persons who lived to or beyond the age of ninety years, 13 were males and 36 females, the latter outnumbering the former nearly three to one, thus demonstrating a fact that has been heretofore noticed, that woman's chances of very long life are better than man's. Five persons lived to or beyond the age of one hundred years, one man and four women. Two of these cetenarians were residents of New Jersey.

Jane Berryman, aged 101, died at Gloucester City New Jersey, at the residence of her daughter, March 4th. She was the widow of the late William Berryman.

Sarah M. Sailer, aged 100, died at Clarksboro', Gloucester county, New Jersey, March 27th. She was born in Gloucester county, and was the widow of William Sailer. She was the mother of ten children, five of whom survived her. She left in the aggregate 111 descendants, of whom 5 were children, 37 grand-children, 66 great-grand-children, and 3 great-great-grand-children. She retained all her faculties until within a few years of her death, and almost all her life enjoyed good health.

Among those over ninety was Mrs. Sarah Hand, aged 93, of Cape May, whose death occurred not long ago. She was one of the company of young girls who in 1789 strewed flowers in Washington's path when on his way through Trenton to be inaugurated first President of the United States, at New York.

Curious Sleepers.

Sleep is nearly as great a puzzle as ever it was. Much has been discovered concerning the bodily peculiarities manifested during this portion of our existence; but all whose

opinions are best worth listening to, admit that they are only on the threshold of the subject yet. Why, for instance, can some men maintain their bodily and mental vigor with so small an amount of sleep as falls to their share? Lord Brougham, and many other great statesmen and lawyers, are known to have been content with a marvelously small quantity of sleep. Frederick the Great is said to have allowed himself only five hours; John Hunter, five hours; General Elliot, the hero of Gibraltar, four hours; while Wellington, during the Peninsular War, had still less.

How, on the other hand, to account for the cormorant sleepers? Dr. Moivre, the mathematician, could (though it is to be hoped he did not) sleep twenty hours out of the twenty-four. Quin, the actor, sometimes slept for twenty-four hours at a stretch. Doctor Reid, the metaphysician, could so manage that one potent meal, followed by one long and sound sleep, would last him for two days. Old Parr slept away his later days almost entirely. In the middle of the last century a young Frenchwoman, at Toulouse, had, for half a year, fits of lengthened sleep, varying from three to thirteen days each. About the same time, a girl, at Newcastle-on-Tyne, slept fourteen weeks without waking; and the waking process occupied three days to complete. Dr. Blanchet, of Paris, mentions the case of a lady who slept for twenty-days together when she was about eighteen years of age, fifty when she was about twenty, and had nearly a whole year's sleep from Easter Sunday, 1862, till March, 1863; during this long sleep (which physicians call hysteric coma) she was fed with milk and soup, one of her front teeth being extracted to obtain an opening into her mouth. Stow, in his "Chronicle," tells us that "The 27th of April, 1546, being Tuesday in Easter weeke, W. Foxley, pot-maker for the Mint in the Tower of London, fell asleep, and so continued sleeping, and could not be waked with pricking, cramping, or otherwise, till the first day of the next term, which was full fourteen dayes and fifteen nights. The causes of his thus sleeping could not be knowne, tho' the same were diligentlie searched for by the king's physicians and other learned men; yea, the king himselfe examined ye said W. Foxley, who was in all points found at his waking to be as if he had slept but one night."

Another very notable instance was that of Samuel Chilton, of Timsbury, recorded in one of the volumes of the "Philosophical Transactions of the Royal Society." In the year 1694 he slept for a month, and no one could wake him. Later in the same year he had a four month's sleep, from April the 9th to August the 7th; he woke, dressed, went out into the fields (where he worked as a laborer) and found his companions reaping the corn which he had helped to sow the day before his long nap; it was not till that moment that he knew of his sleep having exceeded the usual duration of a few hours. He went to sleep again on the 17th of August, and did not wake till the 19th of November, notwithstanding the pungent applications of hellebore and sal ammoniac to his nostrils, and bleeding to the extent of fourteen ounces. He woke, asked for bread and cheese, but went off to sleep again before it could be brought to him, taking another spell of sleep, which lasted till the end of January. After this it is not recorded that he had any more of these strange relapses. There are instances of sleep so intensely deep as to deprive the sleeper of all sense of pain. The records of the Bristol Infirmary present an extraordinary illustration of this. One cold night a tramp lay down near the warmth of a limekiln, and went to sleep. One foot must have been close to the fire hole of the kiln; for during the night the foot and ankle were so completely burned away, as to leave nothing but black cinder and calcined ash. He did not wake till the kiln man roused him next morning, nor did he know what had occurred until he looked down at his charred stump. He died in the infirmary a fortnight afterwards.

The Vibratory Movement of Matter.

The following illustration, says Professor Henry, of the vibratory movement of matter is attested by Professor Horsford, of the United States. The top of the high tower which constitutes the Bunker Hill Monument inclines towards the west in the morning and the north at mid-day, and towards the east in the afternoon. These movements are due to the expanding influence of the sun as it warms, in succession, the different sides of the structure. A similar but more marked effect is produced on the dome of the capitol at Washington, as indicated by the apparent motion of the bob of a long plumb-line fastened to the under side of the

roof of the rotunda, and extending to the pavement beneath. This bob describes daily an ellipsoidal curve, of which the longer diameter is 4 inches or 5 inches in length. By molecular actions of this kind, Time, the slow but sure destroyer, levels to the ground the loftiest monuments of human pride.

Alkaline and other Products of Nevada.

Borax lakes, fields of carbonate of soda that are inexhaustible, and immense deposits of pure sulphur, are among the mineralogical wonders of Nevada. The *Virginia Enterprise* says that loads of carbonate of soda are daily brought to that town from deposits at no great distance to the eastward, and that this soda is of snowy whiteness, without stain, and free from dirt or any other foreign substance. It is fit for family use just as it is found. When a stratum of soda is removed from its bed another is immediately formed. Crude borax from Nevada is furnished at Sacramento at five cents a pound. Jasper, cornelian, moss agate, amethysts, chalcodony, and chrysolite, are found in various parts of the same State; while petrified wood, some parts of which, when cut and polished, make beautiful seals, cane heads, and other ornaments, is very abundant.

The Urara Poison.

At a meeting of the Medico-Chirurgical Society of Glasgow, Dr. Joseph Coats referred to the experiments which have been made with curare in order to determine its precise action, and pointed out the connection of these experiments with the question of muscular irritability. The poison administered to animals completely paralyzes voluntary motion, and, at the same time, irritation of the motor nerves does not produce the usual contraction of the muscles. While the muscles are thus incapable of being made to contract by stimulation of the nerves, they can still be made to contract by irritation applied directly to their substance. From this fact Claude Bernard at once inferred that muscles possess irritability independently of the stimulation through the nerves. Kölliker, however, though arriving finally at the same conclusion, did so by a much more thorough process of reasoning. He said that the paralysis of the nerves might begin near the central nervous system, and spread downwards towards the

branches, and that though in poisoning by curare the conducting power of the larger stems might be lost, yet the smaller branches might remain normal, and irritation applied directly to muscle might first irritate these smaller branches, and, through them, the muscle.

To determine this point, he cut the sciatic nerve of one side, and then gave curare, and found that motion was paralyzed as much on one side as the other. But if the vessel of one limb were tied, that limb remained unparalyzed. Again, if the aorta were tied, and curare inserted under the skin of the anterior part of the animal, the anterior limbs were paralyzed but not the posterior; while the remarkable fact was elicited that irritation of the anterior limbs, produced, by reflex action, contraction of the unparalyzed hind limbs; that is to say, though the motor fibres had ceased to conduct impressions, yet the sensory fibres running in the same sheath parallel to them retained their power of conduction. The general result of these experiments was that the terminal branches of the motor nerves are paralyzed before the main stems.

Lead-Line on the Gums.

Dr. WILLIAM FRANK SMITH writes to the *Lancet* (*Baltimore Med. Jour.*): When I commenced practice in Sheffield, I employed the iodide of potassium as an eliminative, and while employing it made a somewhat remarkable observation, which has been since confirmed by Dr. Hilton Fagge. A man came under my care with severe lead palsy. On examining his mouth, I was surprised to find the lead-line absent; there was no trace of it, though I looked carefully with a good lens. I pointed this out to the then house-surgeon, Mr. Cooper, and to one of my colleagues. The patient was placed under the iodide treatment—doses, ten grains three times a day. In the course of a week or two I was very much surprised to see little arches of black puncta over the roots of the teeth, and in the course of a few more days the blue line was well marked, disappearing again before he left the hospital, about six weeks after his admission.

—The New Roosevelt Hospital, at Fifty-ninth street and Ninth avenue, New York, will be opened for the reception of patients during the month of September.

Dental Society of New Jersey.

The annual Convention of the New Jersey State Dental Society was held at the Conservatory of Music, at Newark, July 10th. Dr. J. Hayhurst presided, and Dr. C. S. Stockton, of Mt. Holly, delivered an address. The following officers were elected: President, Dr. Kingsley, of Elizabeth; Vice President, Dr. G. F. J. Colburn; Treasurer, Dr. Reading, of Trenton; Secretary, Dr. E. F. Hawks, of Rahway.

To Secretaries of Medical Societies.

We are about issuing an annual for the use of physicians, in which we desire to have a record of all regular medical societies in the United States and Canada. All secretaries of such societies, whether State, county or local, will please communicate with us as early as possible, giving title of society, times and place of meeting, names of officers, and number of members.

—The average number of child-murders reported in Austria during five years has been 110. Of these 30 were in Galicia, 21 in Bohemia, 16 in Moravia, 9 in Lower Austria, and 7 in Styria. The number in proportion to the population has increased in Moravia, and has much diminished in Lower Austria.

—As Dr. Rogers, of San Francisco, was hastening to the bedside of his son-in-law, who had attempted to commit suicide, a few days ago, he was thrown from his carriage by a runaway horse and fractured his skull. Immediately after, his son, who was riding with him, was also thrown out and had his leg broken.

—Women have astonished the conservative scholiasts of Berlin by putting forth the Frau Phillipina Mangelsdorff as practicing apothecary, to which she was admitted after rigid examination and much shaking of heads.

—Dr. Hooker, the Director of the Botanical Gardens at Kew, with his party, have returned from Morocco, bringing with them a large collection of plants, many of which are said to be new.

—Franklin county, Ark., has now an organized Medical Association. Dr. T. A. Carter President, and Dr. E. M. Blackburn, of Ozark, Secretary.

—The regular meetings of the New York County Medical Society have been adjourned till September.

—Dr. ERSKINE MASON, formerly Demonstrator in the "College of Physicians and Surgeons," New York, has been appointed Adjunct Professor of Surgery in the "University Medical College."

—Dr. F. D. LENTE has been appointed Professor of the Diseases of Women in the University Medical College, New York.

QUERIES AND REPLIES.

Hydrate of Chloral.

EDS. MEDICAL AND SURGICAL REPORTER:—

I find in the No. of MED. AND SURG. REPORTER for July 8th, a case, reported by Dr. SHAW, in which alarming coma followed the administration of fifteen grains of hydrate of chloral. The probable explanation may be found in the age and condition of the patient. The influence of chloral is more marked, and the duration of its narcotic effect is prolonged in aged and debilitated subjects. The fact that the patient had not eaten anything for near twenty-four hours would perhaps intensify its action. Hydrate of chloral is a poison. Quite a number of deaths have occurred from excessive doses. Strychnia is the antidote.

T. J. WHITTEN, M. D.

Irving, Ill., July 18, 1871.

The Clinical Thermometer.

EDS. MEDICAL AND SURGICAL REPORTER:—

As I depend upon your journal for much valuable information, would like you, or some of the REPORTER'S many readers, to give me some more definite instruction as to the use of the clinical thermometer, how to use it, and when its use is of most value. As it is of a late origin, I find nothing in any of our standard works, and but little in our journals, that would instruct one how or when to use it. If it is valuable an instrument as I believe it to be, would like very much to hear something of the experience of those who have used it.

INQUIRER.

Ottawa, Illinois, July 17, 1871.

Dr. E. F. A., N. C.—Dr. T. GAILLARD THOMAS' work on the Diseases of Women is a recent and valuable work, which we can recommend. Price, \$5, cloth; \$8, sheep.

Dr. W. T. S., Ohio.—Price of Gross' Surgery, latest edition, 2 vols. \$15.

DIED.

CHAPMAN.—At Plainfield, N. J., July 15, John S. Chapman, M. D., late of New York, aged 45 years.

FOOTE.—In Cincinnati, Ohio, on the 12th of July, Dr. Henry E. Foote.

JESSUP.—At West Town, N. Y., July 14th, Amelia Frances, wife of Dr. A. J. Jessup, aged 26 years and 10 months.

MOORE.—In Baltimore, July 7th, Charles Hamilton Moore, M. D., in the 50th year of his age, formerly professor in Oakland College, Miss., and in the Baltimore City College.

ROUX.—Near Quincy, Illinois, July 12th, 1871, of phthisis pulmonalis, Augustus E. Roux, aged 23, student of Rush Medical College, Chicago, Illinois, class of 1868-69.

SHALLCROSS.—July 10th, at his residence in Gallipolis, Ohio, Joseph Shallcross, M. D., in the 72nd year of his age.